

Practice: 512 - Forage and Biomass Planting**Scenario: #1 - Native Perennial Grasses, 1 species****Scenario Description:**

Establish or reseed adapted perennial native warm season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding.

Before Situation:

Poorly managed/degraded pasture land or cropland being converted to pasture and/or hay.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland ,hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 80

Scenario Cost: \$7,747.20

Scenario Cost/Unit: \$96.84

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	80	\$846.40
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	80	\$1,622.40
Materials						
One Species, Warm Season, Native Perennial Grass	2322	Native, warm season perennial grass. Includes material and shipping only.	Acre	\$65.98	80	\$5,278.40

Practice: 512 - Forage and Biomass Planting**Scenario: #2 - Native Perennial Grasses, 1 species, forgone income****Scenario Description:**

Establish or reseed adapted perennial native warm season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn.

Before Situation:

Cropland being converted to pasture and/or hay.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland ,hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting**Scenario Unit: Acre****Scenario Typical Size: 80****Scenario Cost: \$19,374.80****Scenario Cost/Unit: \$242.19****Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	80	\$1,622.40
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	80	\$846.40
Foregone Income						
Fl, Wheat Dryland	1963	Dryland Wheat is Primary Crop	Acre	\$119.47	40	\$4,778.80
Fl, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$171.22	40	\$6,848.80
Materials						
One Species, Warm Season, Native Perennial Grass	2322	Native, warm season perennial grass. Includes material and shipping only.	Acre	\$65.98	80	\$5,278.40

Practice: 512 - Forage and Biomass Planting**Scenario: #3 - Native Perennial Grasses, multiple species****Scenario Description:**

Establish or reseed adapted perennial native warm season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding.

Before Situation:

Poorly managed/degraded pasture land or cropland being converted to pasture and/or hay.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland ,hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 80

Scenario Cost: \$18,913.60

Scenario Cost/Unit: \$236.42

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	80	\$1,622.40
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	80	\$846.40
Materials						
Three plus Species Mix, Warm Season, Native Perennial	2327	Native, warm season perennial grass. Includes material and shipping only.	Acre	\$205.56	80	\$16,444.80

Practice: 512 - Forage and Biomass Planting**Scenario: #4 - Native Perennial Grasses, multiple species, forgone income****Scenario Description:**

Establish or reseed adapted perennial native warm season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn.

Before Situation:

Cropland being converted to pasture and/or hay.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland ,hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 80

Scenario Cost: \$30,541.20

Scenario Cost/Unit: \$381.77

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	80	\$1,622.40
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	80	\$846.40
Foregone Income						
Fl, Wheat Dryland	1963	Dryland Wheat is Primary Crop	Acre	\$119.47	40	\$4,778.80
Fl, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$171.22	40	\$6,848.80
Materials						
Three plus Species Mix, Warm Season, Native Perennial	2327	Native, warm season perennial grass. Includes material and shipping only.	Acre	\$205.56	80	\$16,444.80

Practice: 512 - Forage and Biomass Planting**Scenario: #5 - Introduced Perennial Grasses, legume****Scenario Description:**

Establish or reseed adapted perennial introduced grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding.

Before Situation:

Poor or nonexistent stand of grass species. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 60

Scenario Cost: \$3,046.80

Scenario Cost/Unit: \$50.78

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	60	\$634.80
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	60	\$1,216.80
Materials						
Four Species Mix, Cool Season, Introduced Perennial (2 grasses, 2 legumes)	2319	Cool season, introduced grass and legume mix. Includes material and shipping only.	Acre	\$19.92	60	\$1,195.20

Practice: 512 - Forage and Biomass Planting**Scenario: #6 - Introduced Perennial Grasses, legume, foregone income****Scenario Description:**

Establish or reseed adapted perennial introduced grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn.

Before Situation:

Cropland being converted to grass. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 60

Scenario Cost: \$11,767.50

Scenario Cost/Unit: \$196.13

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	60	\$634.80
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	60	\$1,216.80
Foregone Income						
FI, Corn Dryland	1959	Dryland Corn is Primary Crop	Acre	\$171.22	30	\$5,136.60
FI, Wheat Dryland	1963	Dryland Wheat is Primary Crop	Acre	\$119.47	30	\$3,584.10
Materials						
Four Species Mix, Cool Season, Introduced Perennial (2 grasses, 2 legumes)	2319	Cool season, introduced grass and legume mix. Includes material and shipping only.	Acre	\$19.92	60	\$1,195.20

Practice: 512 - Forage and Biomass Planting**Scenario: #9 - Introduced Perennial Grasses with lime application****Scenario Description:**

Establish or reseed adapted perennial introduced grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hayland, and wildlife openings. Includes a lime application. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding.

Before Situation:

Poor or nonexistent stand of grass species. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 20

Scenario Cost: \$2,455.80

Scenario Cost/Unit: \$122.79

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	20	\$405.60
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	20	\$211.60
Lime application	953	Lime application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$9.64	20	\$192.80
Materials						
One Species, Cool Season, Introduced Perennial Grass	2313	Introduced, cool season perennial grass. Includes material and shipping only.	Acre	\$30.44	20	\$608.80
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$51.85	20	\$1,037.00

Practice: 512 - Forage and Biomass Planting**Scenario: #10 - Bermuda Grass Establishment, sprigging with fertilizer****Scenario Description:**

Sprigging new grasses with sprigging application for the purpose of providing forage, increasing plant diversity, soil quality and fertility, and plant health. This practice may be utilized for organic or regular production. This scenario assumes fertilizer, sprigs, equipment and labor for seed bed prep, tillage, sprigging, and spreading.

Before Situation:

Poor or nonexistent stand of grass species. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 20

Scenario Cost: \$3,752.40

Scenario Cost/Unit: \$187.62

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	20	\$211.60
Ground sprigging	1101	Includes costs for equipment, power unit and labor.	Acre	\$95.58	20	\$1,911.60
Fertilizer, ground application, dry bulk	950	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$6.44	20	\$128.80
Materials						
One Species, Warm Season, Introduced Perennial Grass (seed or sprigs)	2323	Native, warm season perennial grass seed or sprig. Includes material and shipping only.	Acre	\$59.62	20	\$1,192.40
Nitrogen (N), Anhydrous Ammonia	68	Price per pound of N supplied by Anhydrous Ammonia. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.47	400	\$188.00
Phosphorus, P2O5	73	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.30	400	\$120.00

Practice: 512 - Forage and Biomass Planting**Scenario: #11 - Bermuda Grass Establishment, sprigging with fertilizer and lime****Scenario Description:**

Sprigging new grasses with sprigging application for the purpose of providing forage, increasing plant diversity, soil quality and fertility, and plant health. This practice may be utilized for organic or regular production. This scenario assumes fertilizer, sprigs, equipment and labor for seed bed prep, tillage, sprigging, and spreading.

Before Situation:

Poor or nonexistent stand of grass species. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 20

Scenario Cost: \$4,982.20

Scenario Cost/Unit: \$249.11

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Ground sprigging	1101	Includes costs for equipment, power unit and labor.	Acre	\$95.58	20	\$1,911.60
Lime application	953	Lime application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$9.64	20	\$192.80
Fertilizer, ground application, dry bulk	950	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$6.44	20	\$128.80
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	20	\$211.60
Materials						
Nitrogen (N), Anhydrous Ammonia	68	Price per pound of N supplied by Anhydrous Ammonia. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.47	400	\$188.00
One Species, Warm Season, Introduced Perennial Grass (seed or sprigs)	2323	Native, warm season perennial grass seed or sprig. Includes material and shipping only.	Acre	\$59.62	20	\$1,192.40
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$51.85	20	\$1,037.00
Phosphorus, P2O5	73	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.30	400	\$120.00

Practice: 512 - Forage and Biomass Planting**Scenario: #12 - Introduced Perennial Grasses, legume on irrigated cropland****Scenario Description:**

Establish or reseed adapted perennial introduced grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding.

Before Situation:

Irrigated cropland being converted to pasture and/or hay. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 60

Scenario Cost: \$4,242.00

Scenario Cost/Unit: \$70.70

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	60	\$634.80
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	60	\$1,216.80
Materials						
Four Species Mix, Cool Season, Introduced Perennial (2 grasses, 2 legumes)	2319	Cool season, introduced grass and legume mix. Includes material and shipping only.	Acre	\$19.92	120	\$2,390.40

Practice: 512 - Forage and Biomass Planting**Scenario: #13 - Introduced Perennial Grasses, legume on irrigated cropland, forgone income****Scenario Description:**

Establish or reseed adapted perennial introduced grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn.

Before Situation:

Irrigated cropland being converted to pasture and/or hay. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 60

Scenario Cost: \$28,118.10

Scenario Cost/Unit: \$468.64

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	60	\$1,216.80
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	60	\$634.80
Foregone Income						
FI, Wheat Irrigated	1964	Irrigated Wheat is Primary Crop	Acre	\$306.69	30	\$9,200.70
FI, Corn Irrigated	1960	Irrigated Corn is Primary Crop	Acre	\$489.18	30	\$14,675.40
Materials						
Four Species Mix, Cool Season, Introduced Perennial (2 grasses, 2 legumes)	2319	Cool season, introduced grass and legume mix. Includes material and shipping only.	Acre	\$19.92	120	\$2,390.40

Practice: 512 - Forage and Biomass Planting**Scenario: #14 - Organic****Scenario Description:**

Establish or reseed adapted organic perennial cool season grasses or cool season grass and legumes mix to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial cool season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding.

Before Situation:

Poorly managed/degraded pasture land or cropland being converted to pasture and/or hay.

After Situation:

Suitable organic species are established to improve forage quality and quantity and reduce soil erosion on cropland ,hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 80

Scenario Cost: \$8,496.80

Scenario Cost/Unit: \$106.21

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	160	\$1,692.80
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	80	\$1,622.40
Materials						
Certified Organic, Three Species Mix, Cool Season, Perennial Grasses and Legumes	2340	Certified organic cool season perennial grass and legume mix. Includes material and shipping only.	Acre	\$64.77	80	\$5,181.60

Practice: 512 - Forage and Biomass Planting**Scenario: #15 - Organic, forgone income****Scenario Description:**

Establish or reseed adapted organic perennial cool season grasses or cool season grass and legumes mix to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial cool season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes seed, equipment and labor for seed bed prep, tillage, seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn.

Before Situation:

Cropland being converted to pasture and/or hay.

After Situation:

Suitable organic species are established to improve forage quality and quantity and reduce soil erosion on cropland ,hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting**Scenario Unit: Acre****Scenario Typical Size: 80****Scenario Cost: \$21,868.80****Scenario Cost/Unit: \$273.36****Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.58	160	\$1,692.80
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$20.28	80	\$1,622.40
Foregone Income						
Fl, Organic, Corn Dryland	2232	Organic Dryland Corn is Primary Crop	Acre	\$196.91	40	\$7,876.40
Fl, Organic, Wheat Dryland	2236	Organic Dryland Wheat is Primary Crop	Acre	\$137.39	40	\$5,495.60
Materials						
Certified Organic, Three Species Mix, Cool Season, Perennial Grasses and Legumes	2340	Certified organic cool season perennial grass and legume mix. Includes material and shipping only.	Acre	\$64.77	80	\$5,181.60